



UNITED STATES DEPARTMENT OF COMMERCE
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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/154,126 11/18/93 KAMIGUCHI

M 392,1290C

EXAMINER

HEITBRINK, J

ART UNIT

PAPER NUMBER

16

D3M1/0424

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WASHINGTON, DC 20001

1307

DATE MAILED:

04/24/95

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☐ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-12 are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☒ Claims 4-8 are allowed.
4. ☒ Claims 1-3 and 9-12 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

Art Unit: 1307

1. 35 U.S.C. § 101 reads as follows:

"Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title".

Claims 9-12 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

These claims indirectly claim a mathematical algorithm wherein the steps of sampling and storing do not make the claims statutory. The generating or modifying of the injection pressure waveform would include the interpolating between the stored values which the interpolation would require a mathematical algorithm. See *Ex parte Akamatsu*, 22 USPQ2d 1915; *In re Freeman* 197 USPQ 464; and *Abel* 214 USPQ 687. This rejection would be overcome by specifically claiming a step and operation of injection molding.

2. Claims 2 and 3 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2, line 20 and claim 3, line 16 "if" is indefinite, the term --when-- should be used.

3. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in

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section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

4. Claims 1-3 and 9 are rejected under 35 U.S.C. § 103 as being unpatentable over Japanese Kokai 60-104306 in view of applicant's disclosed prior art (pages 1-3 of applicant's specification).

The Kokai discloses the controlling of the injection molding using the reference profile of the conditions such as pressure wherein the profile is obtained when good products are produced. These profiles being a waveform of pressure and time and being stored in a memory would have been obvious to a person of ordinary skill in the art since pressure-time waveforms are well known profiles and pressure-time graphs are well known data for controlling injection molding processes as shown by applicant's disclosed prior art. The adjusting of at least one molding condition and obtaining a profile for a good product would have been obvious in the Kokai since a person of ordinary skill in the

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art would have adjusted a molding condition if the obtained product was not good.

5. Claims 10-12 is rejected under 35 U.S.C. § 103 as being unpatentable over Fujita et al. '116 taken together with European Patent 299,085 to Hara.

Fujita et al. discloses a process storing, displaying, modifying and storing injection conditions including a graph of the injection pressure vs. screw position. The corresponding relationship between screw position and time in the monitoring of injection operations is well known and it would have been obvious to a person of ordinary skill in the art to graph injection pressure vs. time in Fujita et al. since they are well known as being interchangeable in most injection molding operations. The graphing of a injection pressure waveform rather than pressure step profile in Fujita et al. would have been obvious to a person of ordinary skill in the art in view of Hara since Hara teaches the improved product quality by using a waveform so as to avoid peaks in pressure during pressure control step changes. Hara discloses a means for changing of the injection pressure waveform between points on the waveform.

Applicant has stated in response to the withdrawn 112 rejection that "How specifically this modification is performed for a given application (e.g., for a particular mold) is left to

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one of ordinary skill in the art to determine either by using the experience of and/or knowledge available to one of ordinary skill in the art, or even by trial-and error which would not require undue experimentation." It would have been obvious to a person of ordinary skill in the art to form a curved or straight line between two points on the pressure waveform because the adjusting of the injection pressure is well known to those of ordinary skill in the art. The injection and hold stages in Hara are similar to applicants injection/dwell stage.

6. Claims 4-8 are allowable over the prior art of record.

7. Applicant's arguments filed Feb. 7, 1995 have been fully considered but they are not deemed to be persuasive.

Applicant argues that Hara does not provide any suggestion that the pressure detection signal 31 is utilized for feed back control. The examiner disagrees. Hara at page 9, lines 22-25 states "a control unit 42 responsive to the pressure detection signal 31, ... for supplying a pressure control signal 34 to the driving section 23" (emphasis added). The feedback control of the injection pressure is well known and conventional and the control being responsive to the detected pressure would have obviously been such convention feedback control.

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8. Applicant's arguments with respect to claims 1-3 and 9-12 have been considered but are deemed to be moot in view of the new grounds of rejection.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill Heitbrink whose telephone number is (703) 308-0673.



JILL L. HEITBRINK
PRIMARY EXAMINER
ART UNIT 137

JLH
April 21, 1995